

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

Claims 1 - 22. (Cancelled)

23. (Original) A print server for use with print sources that generate print jobs having print data, some of the print jobs having different respective print data formats, and output devices that execute the print jobs, some of the output devices being compatible with different respective print data formats, the print server being configured to direct print data of print jobs received from the print sources to the output devices, the print server comprising:

a format detector configured to detect the print data format compatibility of print data in each of the print jobs with respective ones of the output devices;

a data transformer configured to convert all of the print data in each of the print jobs from the data format of the print job into a different print data format compatible with any given one of the output devices;

a checkpoint restarter configured to allow a failed print job to be re-initiated at the point of failure;

a print enhancer configured to enhance the print data by supplementing the print data with other print data that is resident at the print server; and

a print job merger configured to create a merged print job before printing by merging print data from a first print job with print data from a second print job,

the print server being configured to select one of the output devices for each of the print jobs and each of the merged print jobs and to direct the print data of each of the print jobs and of each of the merged print jobs over a local area network to the selected one of the output devices that is compatible with the print data format of the output device.

24. (Cancelled)

25. (Original) The print server of claim 23, comprising:  
an input receiver coupled to the print sources and configured to receive the print jobs from the print sources.

26. (Original) A printing environment comprising:  
print sources connected to a TCP/IP network, the print sources configured to generate print jobs having print data, some of the print jobs having different respective print data formats;  
output devices coupled to a local area network for executing the print jobs, some of the output devices being compatible with different respective print data formats; and  
a print server connected to the TCP/IP network and the local area network and comprising;  
a format detector configured to detect the print data format compatibility of print data in each of the print jobs with respective ones of the output devices;  
a data transformer configured to convert all of the print data in each of the print jobs from the print data format of the print job into a different print data format compatible with any given one of the output devices;  
a checkpoint restarter configured to allow a failed print job to be re-initiated at the point of failure;  
a print enhancer configured to enhance the print data by supplementing the print data with other print data that is resident at the print server; and  
a print job merger configured to create a merged print job before printing by merging print data from a first print job with print data from a second print job,  
the print server being configured to select one of the output devices for each of the print jobs and each of the merged print jobs and to direct the print data of each of the print jobs and of each of the merged print jobs over the local area network to the selected one of the output devices that is compatible with the print data format of the output device.

27. (Original) The open systems printing environment of claim 26, further comprising:  
a server spool coupled to the printer server.
28. (Original) The open systems printing environment of claim 26, further comprising:  
a graphical user interface coupled to the print server.
29. (Cancelled)
30. (Original) The print server of claim 23, wherein the print data format of a print job  
includes advance function printing (AFP).
31. (Original) The print server of claim 23, wherein the print data format of a print job  
includes line mode.
32. (Original) The print server of claim 23, wherein the compatible format includes  
advance function printing (AFP).
33. (Original) The print server of claim 23, wherein the compatible format includes a  
format using channel command word (CCW) commands.
34. (Original) The print server of claim 23, wherein the compatible format includes  
intelligent printer data stream (IPDS).
35. (Original) The print server of claim 23, wherein the compatible format includes a  
format specifying print streams compatible with a Xerox printer.

36. (Original) The print server of claim 23, wherein the compatible format includes Postscript.

37. (Original) The print server of claim 23, comprising  
a store of print resources; and  
a resource detector configured to detect that a print job specifies print resources and to detect whether the store of print resources includes the specified print resources;  
wherein the print server is configured to provide the specified print resources to the output device.

38. (Original) The print server of claim 37, wherein the specified print resources include a font.

39. (Original) The print server of claim 37, wherein the specified print resources include graphical information.

40. (Original) The print server of claim 37, wherein the specified print resources include an overlay.

41. (Cancelled)

42. (Original) The print server of claim 23  
wherein the print server is also configured to direct the merged print job to an output device compatible with both the print data from the first print job and the print data from the second print job.

43. (Cancelled)

44. (Original) The print server of claim 23, wherein the output device is configured to print the print data on paper.

45. (Original) The print server of claim 23, wherein the output device is configured to send the print data to an electronic mail system.

46. (Original) The print server of claim 23, wherein the output device is configured to record the print data on microfiche.

47. (Original) The print server of claim 23, wherein the output device is configured to record the print data on laser disk.

48. (Cancelled)

49. (Original) The print server of claim 23, wherein the print server is configured to allow the print sources to be brought down for maintenance while the print server is printing the print jobs.

50. (Original) The print server of claim 25, comprising:  
a server spool coupled to the input receiver, the server spool configured to store received print jobs.

51. (Original) The print server of claim 50, comprising:

a queue manager coupled to the server spool, the input receiver, and the data transformer, the queue manager configured to direct each of the print jobs to a selected one of the output devices through an output manager.

52. (Original) A method of handling print jobs received by a print server, the print server for use with print sources that generate print jobs having print data, some of the print jobs having different respective print data formats, and output devices that execute the print jobs, some of the output devices being compatible with different respective print data formats, the print server being configured to direct print data of print jobs received from the print sources to the output devices, the method comprising:

detecting the print data format compatibility of print data in each of the print data in each of the print jobs with respective ones of the output devices;

enhancing the print data by supplementing the print data with other print data that is resident at the print server;

creating a merged print job by merging print data from a first print job with print data from a second print job;

selecting one of the output devices for each of the print jobs that is compatible with the print data for the print job;

converting all of the print data in the print jobs from the print format of the print jobs into a different print data format compatible with any given one of the output devices;

directing the print data of each of the print jobs over a local area network to the selected one of the output devices; and

allowing a failed print job to be re-initiated at the point of failure.

53. (Original) The server of claim 23 in which

some of the print jobs have different respective requirements for print resources, and  
some of the output devices provide different respective print resources, and further  
comprising

a resource matcher configured to compare the resource requirements of each of the print  
jobs with print resources provided by different ones of the of output devices.

54. (Original) A method of handling print jobs received by a print server, the print server  
for use with print sources that generate print jobs having print data, some of the print jobs having  
different respective print data formats, and output devices that execute the print jobs, some of the  
output devices being compatible with different respective print data formats, the print server  
being configured to direct print data of print jobs received from the print sources to the output  
devices, the method comprising:

detecting the print data format compatibility of print data in each of the print data in each  
of the print jobs with respective ones of the output devices;

enhancing the print data by supplementing the print data with other print data that is  
resident at the print server;

creating a merged print job before printing by merging print data from a first print job  
with print data from a second print job;

selecting one of the output devices for each of the print jobs that is compatible with the  
print data for the print job;

converting all of the print data in the print jobs from the print format of the print jobs into  
a different print data format compatible with any given one of the output devices;

directing the print data of each of the print jobs over a local area network to the selected  
one of the output devices; and

allowing a failed print job to be re-initiated at the point of failure.

55. (Original) A computer readable storage medium encoded with computer software, comprising instructions for use in a print server for use with print sources that generate print jobs having print data, some of the print jobs having different respective print data formats, and output devices that execute the print jobs, some of the output devices being compatible with different respective print data formats, the print server being configured to direct print data of print jobs from the print sources to the output devices, the storage medium comprising instructions for causing the print server to:

- detect the print data format compatibility of print data in each of the print jobs with respective ones of the output devices;

- enhance the print data by supplementing the print data with other print data that is resident at the print server;

- create a merged print job before printing by merging print data from a first print job with print data from a second print job;

- select one of the output devices for each of the print jobs that is compatible with the print data for the print job;

- convert all of the print data in each of the print jobs from the print data format of the print job into a different print data format compatible with any given one of the output devices;

- direct the print data of each of the print jobs over a local area network to the selected one of the output devices; and

- allow a failed print job to be re-initiated at the point of failure.

56. (Cancelled)

57. (Original) The printing environment of claim 26, wherein the print server is further configured to select an output device.

58. (Cancelled)



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Page : 11 of 12

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59. (Cancelled)

Claims 60-88 (Cancelled)